58. (Once amended) A vector comprising:

(a) a first promoter operably linked to an exon defined at its 3' end by an unpaired splice donor site, and

(b) a second promoter operably linked to a sequence encoding a selectable marker that lacks an operably linked polyadenylation signal;

wherein said first and second promoters are present in said vector in the same orientation.

65. (Once amended) A vector comprising a first promoter and a second promoter, said first and second promoters being oriented in the same direction, wherein:

(a) said first promoter, but not said second promoter, is operably linked to an exon defined at its 3' end by an unpaired splice donor site; and

(b) said vector comprises no operably-linked polyadenylation signals downstream of either said first promoter or said second promoter.

67. (Once amended) A vector comprising:

(a) a first promoter operably linked to a sequence encoding a first selectable marker and an unpaired splice donor site; and

(b) a second promoter operably linked to a sequence encoding a second selectable marker, wherein neither said first selectable marker

sequence nor said second selectable marker sequence contains an operably-linked polyadenylation signal;

wherein said first and second promoters are present in said vector in the same orientation.

68. (Once amended) The vector of claim 67, wherein said first and second selectable marker sequences are positive selectable marker sequences.

69. (Once amended) The vector of claim 67, wherein said first selectable marker sequence is located upstream of said second selectable marker sequence.

70. (Once amended) A vector construct comprising:

(a) a first promoter operably linked to a sequence encoding a positive selectable marker;

(b) a second promoter operably linked to a sequence encoding a negative selectable marker; and

(c) an unpaired splice donor site,

wherein said positive and negative selectable marker sequences and said splice donor site are oriented in said vector construct in an orientation such that, when said vector construct is integrated into the genome of a eukaryotic host cell and the vector-encoded splice donor is spliced to a splice acceptor in an endogenous gene in said

genome, then said positive selectable marker sequence is expressed in active form and said negative selectable marker sequence is not expressed.

73. (Once amended) The vector of any one of claims 58, 65, 67, 70, or 71, said vector further comprising sequences encoding one or more amplifiable markers.

79. (Once amended) A host cell *in vitro* comprising the vector of any one of claims 58, 65, 67, 70, or 71.

80. (Once amended) A host cell *in vitro* comprising the vector of claim 72.

81. (Once amended) A host cell *in vitro* comprising the vector of claim 73.

82. (Once amended) A host cell *in vitro* comprising the vector of claim 74.

83. (Once amended) A host cell *in vitro* comprising the vector of claim 75.

84. (Once amended) A host cell *in vitro* comprising the vector of claim 78.

87. (Once amended) A library of cells *in vitro* comprising the vector of any one of claims 58, 65, 67, 70, or 71.

88. (Once amended) A library of cells *in vitro* comprising the vector of claim 72.

89. (Once amended) A library of cells *in vitro* comprising the vector of claim 73.

90. (Once amended) A library of cells *in vitro* comprising the vector of claim 74.

91. (Once amended) A library of cells *in vitro* comprising the vector of claim 75.

92. (Once amended) A library of cells *in vitro* comprising the vector of claim 78.

93. (Once amended) A method for activation of an endogenous gene in a cell *in vitro* comprising:

(a) transfecting a cell *in vitro* with the vector of any one of claims 58, 65, 67, 70, or 71; and

(b) culturing said cell under conditions suitable for non-homologous integration of said vector into the genome of said cell, wherein said integration results in the activation of an endogenous gene in the genome of said cell.

94. (Once amended) A method for obtaining cDNA from an endogenous gene comprising:

(a) transfecting a plurality of cells *in vitro* with the vector of any one of claims 58, 65, 67, 70, or 71;

(b) culturing said cells under conditions suitable for non-homologous integration of the vector into the genome of the cell;

(c) selecting for cells in which said vector has integrated into the genomes of said cells;

(d) isolating RNA from said selected cells;

(e) producing cDNA from said isolated RNA; and

(f) isolating one or more cDNA molecules containing one or more nucleotide sequences from said vector.

95. (Once amended) The method of claim 94, wherein said isolation is accomplished by hybridizing said cDNA to said vector.

96. (Once amended) The method of claim 94, wherein said isolation is accomplished by sequencing said cDNA and comparing the nucleotide sequence of said cDNA to the nucleotide sequence of said vector.

97. (Once amended) The vector of claim 67, wherein said unpaired splice donor site is positioned upstream of said first selectable marker sequence such that, when said vector is integrated into the genome of a eukaryotic host cell resulting in splicing from said unpaired splice donor site to a genome-encoded splice acceptor site, then said first selectable marker sequence is not expressed.

98. (Once amended) A method for isolating cells *in vitro* in which a single exon gene has been activated, comprising:

(a) transfecting a plurality of eukaryotic cells *in vitro* with the vector of claim 97;

(b) culturing said cells under conditions suitable for non-homologous integration of the vector into the genomes of said cells; and

(c) selecting for cells in which said first and second selectable marker sequences are expressed in their active forms.

99. (Once amended) A method for isolating a single exon gene cDNA comprising:

(a) transfecting a plurality of eukaryotic cells *in vitro* with the vector of claim 97;

(b) culturing said cells under conditions suitable for non-homologous integration of the vector into the genomes of said cells;

(c) selecting for cells in which said first and second selectable marker sequences are expressed in their active forms;

(d) isolating RNA from the selected cells;

(e) producing cDNA from said isolated RNA; and

(f) isolating a single exon gene from said cDNA.

100. (Once amended) A method for isolating exon I of a gene comprising:

(a) transfecting one or more eukaryotic cells *in vitro* with the vector of any one of claims 58, 61, 65, or 67;

(b) culturing said cells under conditions suitable for non-homologous integration of the vector into the genome of said cells;

(c) selecting for cells in which said vector has transcriptionally activated an endogenous gene containing one or more exons;

(d) isolating RNA from said selected cells;

(e) producing cDNA from said isolated RNA;

(f) recovering a cDNA molecule containing vector sequence and sequence from said endogenous gene; and

(g) using said endogenous gene sequence to recover exon I of said endogenous gene.

101. (Once amended) A method for expressing a transcript containing exon I of a gene, said method comprising:

(a) transfecting one or more eukaryotic cells *in vitro* with the vector of any one of claims 58, 61, 65, or 67;

(b) culturing said cells under conditions suitable for non-homologous integration of the vector into the genome of said cells; and

(c) culturing said cells under conditions suitable for expression of a transcript containing exon I from an endogenous gene.

102. (Once amended) A method for producing a gene product encoded by an endogenous cellular genomic gene, comprising:

(a) isolating genomic DNA, containing at least one gene, from a eukaryotic cell;

(b) inserting into or otherwise combining with said isolated genomic DNA, the vector of any one of claims 58, 59, 61, 65, or 67, thereby producing a vector-genomic DNA complex;

(c) transfecting said vector-genomic DNA complex into a suitable eukaryotic host cell *in vitro*; and

(d) culturing said host cell under conditions suitable to result in transcription of one or more genes encoded by said vector contained in said vector-genomic DNA complex.

103. (Once amended) A method for isolating a gene sequence comprising:

(a) isolating genomic DNA, containing at least one gene, from a eukaryotic cell;

(b) inserting into or otherwise combining with said isolated genomic DNA, the vector of any one of claims 58, 61, 65, or 67, thereby producing a vector-genomic DNA complex;

(c) transfecting said vector-genomic DNA complex into a suitable eukaryotic host cell *in vitro*;

(d) culturing said host cell under conditions suitable to result in transcription of one or more genes encoded by said vector contained in said vector-genomic DNA complex;

(e) isolating RNA produced by said transcription from said host cell;

(f) producing one or more cDNA molecules from said isolated RNA; and

(g) recovering one or more cDNA molecules containing vector sequences at the 5' ends of said cDNA molecules, thereby isolating said gene sequence.

106. (Once amended) A method for producing a protein comprising:

(a) isolating genomic DNA from one or more cells;

(b) inserting into or otherwise combining with said isolated genomic DNA, the vector of any one of claims 58, 61, 65, or 67, thereby producing a vector-genomic DNA complex;

(c) transfecting said vector-genomic DNA complex into a suitable host cell *in vitro*; and

(d) culturing said cell under conditions suitable to result in protein expression from said genomic DNA contained in said vector-genomic DNA complex.

113. (Once amended) The vector construct of claim 70, wherein said positive selectable marker sequence is selected from the group consisting of a neomycin gene, a hypoxanthine phosphoribosyl transferase gene, a puromycin gene, a dihydrooratase gene, a glutamine synthetase gene, a histidine D gene, a carbamyl phosphate synthase gene, a dihydrofolate reductase gene, a multidrug resistance I gene, an aspartate transcarbamylase gene, a xanthine-guanine phosphoribosyl transferase gene, and an adenosine deaminase gene.

114. (Once amended) The vector construct of claim 70, wherein said negative selectable marker sequence is selected from the group consisting of a hypoxanthine phosphoribosyl transferase gene, a thymidine kinase gene, and a diphtheria toxin gene.

115. (Once amended) The vector of claim 70, wherein said negative selectable marker sequence is located upstream of said positive selectable marker.

116. (Once amended) The vector of claim 115, wherein said vector further comprises one or more selectable marker sequences.

Please add the following new claims:

117. (New) The vector of claim 67, wherein said unpaired splice donor site is positioned within said first selectable marker sequence such that, when said vector is integrated into the genome of a eukaryotic host cell resulting in splicing from said unpaired splice donor site to a genome-encoded splice acceptor site, then said first selectable marker sequence is expressed in inactive form.

118. (New) A vector construct comprising:

(a) a first promoter operably linked to a sequence encoding a positive selectable marker;

(b) a second promoter operably linked to a sequence encoding a negative selectable marker; and

(c) an unpaired splice donor site,

wherein said positive and negative selectable marker sequences and said splice donor site are oriented in said vector construct in an orientation such that, when said vector construct is integrated into the genome of a eukaryotic host cell and the vector-encoded splice donor is spliced to a splice acceptor in an endogenous gene in said genome, then said positive selectable marker sequence is expressed in active form and said negative selectable marker sequence is expressed in inactive form.